DISCUSSION PAPER

INFORMATION TECHNOLOGY & THE COLLEGE SYSTEM:

A Plan for *Action*

MINISTRY OF ADVANCED EDUCATION & JOB TRAINING

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Discussion Paper

INFORMATION TECHNOLOGY AND THE COLLEGE SYSTEM:

A PLAN FOR ACTION

Prepared by the
Committee on Computer-Based Education -
Ministry of Advanced Education and Job Training

for the

Province of British Columbia

July, 1987

This Discussion Paper was prepared by:

Doug Schweitzer under the direction of the Committee on Computer-Based Education, Chaired by William L. Day, President, Douglas College

July 31, 1987

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July 28, 1987

Mrs. Isabel Kelly
Deputy Minister
Ministry of Advanced Education
and Job Training
818 Broughton Street
Victoria, B.C.
V8V 1X4

Dear Mrs. Kelly:

RE: Information Technology and the College System: A Plan for Action

Thirteen months ago, a report was presented to Dr. John Dewey, Deputy Minister, entitled "**Computers in Education: A College Perspective**".

This report - an issues paper - was given wide circulation within the colleges and institutes system by your Ministry, as a stimulus to thought.

The present Committee was commissioned by you to collate and analyze responses to the original White Paper from the colleges and institutes of the Province, carry out further research and some experimental activity, and provide advice to you regarding appropriate policies and actions of the Ministry of Advanced Education and Job Training.

The attached report is an accounting to you of our work, and recommendations for further action.

We believe that the recommendations are practical, and are considerate of the very wide variety of types of institutions within your Ministry. Furthermore, they can be acted upon within a wide range of funding levels.

Yours very truly,

William L. Day
Chairman, Computer-Based Education Committee

WLD/jg

attachment

c.c. Members of the Committee
Mr. Lorne Thompson

Acknowledgements

Several people other than members of this Committee, contributed significantly to the preparation of this report. The Committee wishes to acknowledge their contribution and to thank them for their assistance. They are:

Virginia Chisholm, Douglas College

Iain Cooke, Camosun College

Bruce McLean, Vancouver Community College

Anne Moore, Provincial Educational Media Centre

1. SUMMARY

This edition of the Provincial Committee on Computer-Based Education has carried on the work of its predecessor committee whose work in 1986 resulted in the report "Computers in Education: A College Perspective". The Committee has reviewed the issues raised in that report and the responses received from the colleges and institutes.

The Committee has concluded that there is an urgent need for co-operation among the colleges and institutes to respond to the educational opportunities presented by the emerging information technologies. Fostering communications within the post-secondary system about the new technologies, co-operation in evaluating and incorporating new methods in education, and collaboration in acquiring the infrastructure to implement new methods are activities that must be accelerated and promoted.

The recommendations put forth in this report are offered in the belief that enfranchisement of post-secondary students and faculty in the use of the new technologies is imperative in preparing them for the "Information Society". Therefore, the debate is about form, not substance.

Major recommendations include:

1. The formation of a joint college - institute - government committee to sponsor a wide selection of activities related to information and education about and use of information technology.

2. The extension of the services of the Provincial Educational Media Centre to include acquisition and evaluation of software for colleges and institutes.

3. The adoption of policies on copyright at both the Provincial and institutional levels.

2. INTRODUCTION

A. Background

In March of 1986, the (then) Ministry of Post-Secondary Education appointed a Committee on Computer-Based Education "to consider the implications of new information technologies on the community college system in British Columbia and to initiate a process of discussion, debate and policy formulation". That Committee filed its final report, entitled "Computers in Education: A College Perspective", with the Ministry in June. It was subsequently published and distributed throughout the system in the fall of 1986.

Late in 1986, the new Ministry of Advanced Education and Job Training appointed a new committee to continue the work. An Interim Report was submitted to the Ministry early in April, 1987 . This report is the final account of the activities and recommendations of the Committee.

B. Terms of Reference

Terms of Reference of the present Committee were as follows:

1. Promote awareness of information technology throughout the college system and sponsor or encourage professional development activities aimed at enfranchising instructors in the use of these technologies.

2. Make recommendations on appropriate actions on the issues raised in the previous report (such as copyright) and other related issues deemed important by the Committee.

3. Identify information technology issues within the college system which are in need of resolution and, where possible, recommend the means of resolution.

4. Report by March 31, 1987, on progress made in carrying out these Terms of Reference.

C. Committee Membership

The following individuals were appointed to the committee. The membership is largely different from the original committee. Four members provided continuity.

Keith Bateman
Camosun College

Jim Baxter
Ministry of Advanced Education and Job Training

Bill Day, Chairperson
Douglas College

Jim Goard
Vancouver Community College

Diane Morrison
Ministry of Advanced Education and Job Training

Ken Parker
College of New Caledonia

Marg Penney
British Columbia Institute of Technology

Dick Scales
Open Learning Institute

Doug Schweitzer
Malaspina College

Lorne Thompson
Ministry of Advanced Education and Job Training

Al Walker
Selkirk College

Thorne Won
North Island College

3. "COMPUTERS IN EDUCATION: A COLLEGE PERSPECTIVE"

A. Response by Colleges

In September 1986, the Ministry distributed copies of the original report to all colleges and institutes with a request that each provide a response to the recommendations and issues identified in the report.

Most respondents found the report to be timely in its arrival and adequate, but not surprising in its content. The lack of fiscal resources for computer related purchases and faculty development was a common concern. Most respondents continued to see the computer as an aid to the student and instructor. The role of a "central agency" was not agreed upon; some concluded that a central agency involvement would be threatening while others hoped that a central agency would be a helpful adjunct to overcoming problems at the institutional level. There was common agreement on the inadvisability of establishing provincially mandated hardware and software standards.

Comment from Malaspina and Douglas Colleges was that the Committee was "over-zealous" in recommending that computers be considered essential tools in all academic endeavors. Malaspina College and Vancouver Community College pointed out the desirability of considering these matters in the wider educational context which includes K - 12 and the universities.

Comment from British Columbia Institute of Technology suggested the need for an inventory of current activity on computer-based education in the educational system at all levels within the province. Information on various approaches to Computer-Based Education should be obtained from other jurisdictions across the country.

Comment from North Island College warned against concentrating expensive efforts on only enhancing existing methods of instruction and training delivery. Expenditures should be made on developing computer-based learning, using the capabilities of stand-alone microcomputers to deliver training opportunities throughout the province. "The reality of many potential learning and training situations in British Columbia is that the physical presence (or the electronic availability) of a 'teacher' must be seen as the 'enhancement', not vice versa."

The response from Camosun College said the report should be praised as a first attempt to face a difficult problem.

The responses to the specific issues and recommendations of the report have been summarized and are presented in Appendix A.

B. Needs

The Committee has reviewed at length the original report and has examined the response of the colleges to the issues and recommendations contained in the report. There are several important needs requiring urgent attention:

1. The need for the creation of professional development opportunities for college faculty in the use of information technology in education.

2. The need for fiscal resources for computer-related purchases and faculty development.

3. The need for co-operation and collaboration among the colleges and institutes in matters relating to information technologies, including copyright and acquisition, while recognizing the values of institutional control and initiative.

4. The need for much debate throughout the system on the degree to which computers and information technologies should be integrated into college curricula.

5. The assessment of information technologies in the development of an open learning system.

6. The need for assistance in developing communication among colleges about current activities in this field.

7. The need for guidance on matters of copyright as institutions and the Ministry expand efforts to produce and acquire educational software.

These issues and the related recommendations of the Committee will be discussed under the headings of Joint Action, Professional Development, Copyright, Acquisitions and Evaluations of Software and Courseware, and Communications Network.

4. JOINT ACTION

A. The Need for Joint Action

The present and potential impact of the information technologies on education creates a need for co-operative and collaborative action among the colleges and institutes to assess, evaluate and plan the implementation of the consequent changes to the educational process. This need was identified in many of the recommendations of the original report. Directly or indirectly, the report called for joint action on the following topics:

- training: providing system-wide professional development opportunities;
- software: evaluating, acquiring, and distributing educational software, including productivity applications (word processing, electronic spreadsheets, etc.);
- hardware: obtain the best possible value in acquiring suitable hardware through group purchasing;
- copyright: the adoption of a consistent approach to copyrighting system-produced software and courseware which encourages creativity at the lowest possible cost;
- communications: provide technical assistance in establishing college-wide computer networks;
- technology: monitor the rapidly-changing field of educational technology to enable educational planning to remain current;
- funding: developing and maintaining an ongoing three-year plan for expenditures to meet the need for continuing technological change within the college system.

B. Organizing for Joint Action

The original report proposed several models for a central agency or agencies:

- establish a new agency within the Ministry;
- expand the role of one or more existing agencies, such as the Open Learning Institute or Provincial Educational Media Centre;
- expand the terms of reference of one or more existing inter-college co-ordination or articulation committees;
- establish a new inter-college agency in co-operation with government.

The response of the colleges to the creation of another central agency was generally negative. Some feared that controls or restrictions would be imposed on their autonomy by another agency while others felt it would be a waste of scarce resources to finance another central agency.

The Committee arranged for the preparation of a brief summary of existing models for inter-college co-operation in the acquisition of educational materials.

The report reviewed the roles of the Media Exchange Co-operative, the Telecourse Acquisition Committee and the Provincial Educational Media Centre in providing for joint action by the colleges and institutes in obtaining rights to use a wide variety of educational materials. It is clear from the report that Provincial Educational Media Centre plays a pivotal role in nearly all acquisitions. The report recommends that Provincial Educational Media Centre be considered for a similar role in acquiring educational software. At the very least, Provincial Educational Media Centre should be consulted in the development of a suitable model.

The full text of the report is reproduced in Appendix B.

It is the opinion of the Committee that no singular structure or organization can effectively meet all of the needs for joint action among the colleges. Recommendations on these matters follow.

C. A Recommended Structure for Joint Action

While the new information technologies clearly have the potential to make the learning process more effective and exciting, the cost and difficulty of familiarization with, adaptation to and introduction of the technologies within the post-secondary system can be immense. It is important that scarce resources be applied as effectively as possible to the process of change.

Each of the community colleges and institutes faces similar problems in assessing, developing an awareness of and experience in these technologies and each has similar needs to adapt to change. It has become clear that there exists no broad forum for the discussion and resolution of issues affecting post-secondary education in British Columbia as a result of advances in information technology.

The Committee recommends that a permanent high-level joint college-government committee be struck. It should provide for the ongoing evaluation of developments in information technology and the knowledge base from which individual colleges and institutes can plan. The desired changes should enfranchise post-secondary students and faculty in the use of these technologies.

The membership of this committee should include representation from the executive of the colleges and the Ministry as well as from college faculty. It should be funded on an ongoing basis to a level sufficient to enable it to carry out its activities and to fund research, development and evaluation projects related to information technology. The projects will normally be jointly funded by the new committee and one or more colleges and will be carried out within the college system.

The objectives of this committee on information technology would be to:

1. Promote awareness of the utility of new technologies among college faculty, administrators and staff.

2. Provide for training to faculty in the use of information technologies.

3. Provide support in adapting technologies to the processes of teaching/learning.

4. Promote the use of new techniques in college education and training.

5. Provide for system-wide evaluation of and experimentation with new technologies and their adaption for use where appropriate.

6. Co-ordinate system-wide efforts to avoid duplication.

7. Establish system-wide communication links to share information about and knowledge of the use of evolving technologies and their effectiveness.

8. Establish a system-wide inventory of educationally sound courseware and educational applications and provide for the sharing of such materials throughout the system.

9. Prepare and maintain a continuing three-year plan of expenditures deemed necessary to enable the integration of information technologies into post-secondary education.

The Committee recommends the following priorities for consideration for early funding:

Priority Level

1 Establish system-wide electronic messaging and conferencing system and develop a system for distributing courseware/software and evaluations among the colleges and institutes.

2 Identify and make available an inventory of educationally sound courseware and applications and make it available to all colleges and institutes in an on-line electronic database. The Committee has begun the preparation of an inventory of existing Computer Based Education-related projects in the post-secondary system and has made access to it available on-line through the University of British Columbia.

3 Establish a periodic newsletter for distribution throughout the college and institute system. The newsletter would carry news and information about the use of information technologies in post-secondary education.

4 Launch a system-wide program of orientation and awareness through workshops, seminars, visiting lecturers, demonstrations, and conferences.

5 Support the establishment of demonstration centers in several colleges to introduce college people to new services in information technology.

6 Assist colleges in providing electronic information services to students and faculty.

7 Identify, evaluate and report on suitable Computer Managed Learning software. Arrange for the acquisition of appropriate systems. Provide training in their use.

8 Identify, evaluate and report on suitable Computer Assisted Instruction authoring and delivery systems. Arrange for the acquisition of appropriate systems. Provide training in their use.

9 Develop a center of technical expertise in production and evaluation of Computer Aided Instruction materials to provide training and use this expertise to assist faculty in the adaptation of this technology to the learning process.

10 Develop, test and demonstrate video, audio, and computer conferencing and systems for the remote delivery of learning opportunities.

11 Create a small unit for developing, testing and evaluating interactive videodisk technology and determine its suitability in the post-secondary system.

The Ministry of Advanced Education and Job Training has launched a project on Information Technology and has appointed a steering committee with representatives from senior levels of the colleges and the Ministry. From information presently available it appears that this project is being designed to approach the main issues identified by this Committee. We applaud and support these initiatives.

5. PROFESSIONAL DEVELOPMENT

The Terms of Reference asked specifically that the Committee initiate and promote professional development activities within the college system related to the use of information technologies in educational activities.

A. Activities

The Committee has undertaken several activities related to promoting a greater awareness of information technologies within the college system:

1. A two-day workshop, on the use of the Concurrent Authoring System which was acquired for all colleges and institutes by the Ministry, was held in April, 1987, and was well attended by college faculty.

2. A special presentation was made to the British Columbia Association of Colleges at their annual meeting held at Camosun College in June, 1987. Camosun College organized a one-day session of speakers, demonstrations, and displays which provided in-depth information about Computer Based Education. Other groups representing the registrars, the bursars and the academic deans and directors, also participated in these sessions.

3. North Island and Camosun Colleges are co-operatively planning, with Committee support and financial assistance, to offer a summer workshop of one week duration, in using and producing Computer Aided Instruction materials. The workshop is planned to be held in late summer. A follow-up workshop is planned for the spring of 1988.

4. A mailing list of contacts in each college has been prepared and used for distributing information about workshops and other Computer Based Education - related matters.

5. An overview survey of projects related to Computer Based Education currently underway in the college system was undertaken. The information gathered is available on-line through the services of the University of British Columbia.

B. Plans

The Committee concurs with the original report in stressing the importance of providing for professional development among faculty, staff and administrators in the system and for the continued promotion of awareness about the potential uses of information technology in education.

The Committee has conceived and initiated several professional development and awareness activities. A survey has been carried out among the Chief Executive Officers of the Colleges and Institutes. The following proposals are offered as suggestions for future efforts:

a) A "Road Show" - a short presentation and demonstration entitled "Computers in Education: A Survey of Applications" or similar to be directed to executives and board members.

b) Articulation Presentations - making available general or specific presentations to these committees during their annual meetings. A number of colleges have offered to make available presentations on a variety of subjects.

c) Topical Workshops - organizing 1 or 2 day workshops on such topics as: Interactive Videodisk, Authoring Courseware, Software for Computer-managed Learning, Computers in Distance Education, or other topics suggested by the colleges. The expertise for offering such workshops would largely come from the college system.

d) "Train-the-Trainers" Program - An intensive four- to six-week training program to "train the trainers" in Computer Based Education - related topics is of interest to a number of colleges. College faculty taking this program would then provide training to their colleagues.

e) Newsletter - Information about practices and prospects in Computer Based Education could be distributed via a new newsletter or through co-operation with producers of existing college newsletters.

6. COPYRIGHT

The Committee recommends the following policy on copyright. The policy attempts to tread a narrow path among conflicting objectives: that of encouraging a continuing supply of high-quality, original educational materials while at the same time, ensuring that the materials are available throughout the college system without paying excessive prices; and, further, that returns from commercial applications of such materials are applied to offset the costs of production which have been incurred.

A. Ownership of Copyright - Institutional Concerns

Preamble:

The right of an originator to profit from his creativity does not extend to a work produced in the course of employment (R.S.C. 1970 - C-30, S.12 (3)). Similarly, the copyright to a work produced by or through resources provided by the employer should not be vested solely with the employee.

Principles:

1. The copyright to works produced in the course of employment will be vested in the employer, (i.e. the college or institute). This right includes the right by the employer to profit from any exploitation of those rights. However, if such a work bears the name of the employee-originator, the employer may not amend or alter the work without consent of the employee.

2. The copyright to works produced by an employee on his own time and without the benefit of the employer's resources, but during the period of his employment, will be vested in the employee.

3. Notwithstanding the above, an employer and employee may enter into an agreement prior to the inception of a project to share jointly all copyright privileges. Alternatively, the agreement could vest the ownership of the copyright in the employee and provide reimbursement to the employer by either paying for services/facilities used and/or by granting the employer license to use such works. (1)

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1. V. Chisholm, Director, Learning Resources, Douglas College

B. Ownership of Copyright - Provincial Concerns

Preamble:

The Ministry of Advanced Education and Job Training has an inherent interest in the ownership of the copyright to educational materials produced with provincial funds. This right includes the full protection provided by the Copyright Act to control distribution of materials and the right to profit from that distribution.

Principles:

1. When the Ministry enters into an agreement with a college, institute or private agency for the production of educational materials, the copyright to those materials will be vested in the Ministry, as the agent for the Crown.

2. When the college/institute produces materials using resources derived from within its own budget, the copyright to those materials will be vested in the institution.

3. Notwithstanding the above, agreements to share jointly copyright within the Ministry jurisdiction or with the private sector may be negotiated prior to the inception of the project.

4. Recognizing the public nature of all institutional funding, the right to exploit the potential for profit from royalties within the jurisdiction of the Ministry will be limited to the right to recoup the costs of materials, labour and overhead derived from duplicating those materials.

5. The right to exploit the full potential for profit from royalties to agencies or individuals outside the jurisdiction of the Ministry will be recognized. (2)

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2. V. Chisholm, Director, Learning Resources, Douglas College

7. ACQUISITIONS AND EVALUATIONS OF SOFTWARE AND COURSEWARE

All colleges and institutes are currently or will soon be acquiring software, courseware and hardware for educational and training programs. Co-operative efforts in evaluating and purchasing these items hold the promise of providing significant benefits to the participants.

The Provincial Education Media Centre is currently engaged in obtaining copyright clearance on educational materials and, in fact, has been clearing rights, on microcomputer software for the K-12 sector. Provincial Educational Media Centre provided services to the post-secondary institutions up until the elimination of these services this year (1987/88). Preliminary discussions with staff from Provincial Education Media Centre suggest that there is a willingness to re-instate regular media acquisition services and to extend this service to software for the post-secondary system if the required resources are provided.

The Committee recommends that the Provincial Education Media Centre be requested to provide services to the college system in evaluating and acquiring educational software and courseware.

The Committee suggests that a two-tier system of funding for this service be explored with Provincial Educational Media Centre and with the colleges:

a) core funding for basic operations in evaluating and acquiring software;

b) acquisition and distribution of this material to be financed via sale to colleges and institutes.

This will enable Provincial Education Media Centre to provide a valuable service to the colleges but, because the purchases are made by the acquiring colleges, it will avoid the problem of having educational materials centrally mandated. In this way, the autonomy of the individual colleges can be preserved yet each can benefit from the savings produced by co-operative purchasing of common materials.

Administrative changes will be necessary to enable Provincial Educational Media Centre to collect fees directly for the sale of goods. Presently all revenue is received by the Province.

8. COMMUNICATIONS NETWORK

Elsewhere in this report, reference has been made to the need for information about Computer Based Education - related activities underway at the colleges; information about courses using Computer Based Education technology; information about the suitability of courseware and courseware development tools; information about who to contact within the colleges on a variety of issues. In the opinion of the Committee there is much room for improvement in inter-institutional communications on Computer Based Education matters which has been reflected in several related recommendations.

One of the ways in which the process of communications among the colleges and institutes can be assisted and promoted is in the development of a computer communications network within the college system and in the sharing of information among interested faculty, staff and administrators. There currently exists several facilities for communicating computer-to-computer within the system but none yet provide a sufficiently wide range of easy-to-use services that the use of these facilities has extended very far beyond the technically competent.

The Committee recommends that a feasibility study be undertaken immediately to define a computer communications network among all colleges and institutes to enable the ready sharing of information, news and opinion on Computer Based Education - related topics among an eclectic array of college and institute personnel.

The system should provide the following services:

1. Electronic messaging;

2. Computer conferencing;

3. Access to system-maintained databases on topics such as software/courseware evaluations, Computer Based Education projects in process, contacts and mailing lists;

4. Sharing/distribution of educational software/courseware.

The feasibility study should:

1. Undertake a needs assessment among colleges, institutes and the Ministry to more fully define the required system;

2. Survey the existing facilities within the system to determine if any are suitable candidates;

3. Survey systems in use in similar settings elsewhere;

4. Recommend a suitable system;

5. Identify any capital investments required by the colleges to make use of the system;

6. Prepare a training plan which will enable the widest possible usage of the system by college, institute and Ministry staff;

7. Prepare a plan for the ongoing management and maintenance of the system.

The primary criterion for the recommended system should be its ease of use by non-technical people. Those carrying out the feasibility study should be encouraged to recommend an existing system (with or without modifications) if at all possible. At the present time computer communications suffer from a plethora of systems; it is not uncommon for a user of electronic mail to subscribe to a half-dozen or more mail systems. The establishment of a separate system independent from other computer communications systems should be avoided unless there is simply no other way to provide a satisfactory service. Existing systems such as UBC Forum, iNet, EAN, and CONFER should be carefully considered for a possible contribution to a final system.

APPENDIX A:

Summary of Responses to Report

A policy on educational computing must consider the following items:

1. Accessibility to computing power is the main issue.

British Columbia Institute of Technology:

> "Accessibility to computer power needs to be identified province-wide."

Camosun:

> "The main concern is accessibility to computing resources which implies accessibility to hardware, space and support. Without adequate resources any interest in using computers in education that has been generated by training and encouragement given to staff will quickly atrophy."

Cariboo:

> "Presently funds are insufficient to ensure accessibility to computer power."

Malaspina:

> "Agrees that the main issue is accessibility to educational computing by students and the instructional delivery system."

Selkirk:

> "Agrees fully that access in a major problem. A clear need is to ensure sufficient hardware and software for basic computing needs."

Vancouver Community College:

> "Accessibility to computer power implies hardware and space."

2. The second major barrier to the widespread adoption of computers in college education in the short-term is needed for the training of a whole generation of faculty and administrators.

Cariboo:

> ""Problem in instructors" workload and funds for professional development."

Malaspina:

> "Current greatest barrier (non-economic) is an instructional delivery system that lacks the appropriate tools (physical and intellectual)."

Selkirk:

> "The recommendations dealing with training of college personnel in the use and application of computers is supported. This training should encourage increased efficiencies throughout the system."

Vancouver Community College:

> "When faculty are provided with computers, they quickly learn to use them and apply them in their classes."

3. The goal must be to create a physical and intellectual environment within which students work comfortably with computers as intellectual tools of exploration and discovery.

Cariboo:

> "Students are much more comfortable with the concept of utilizing a computer as an intellectual tool than is this generation of instructors."

Malaspina:

"The computer can be a tool of discovery, and that will be its highest and best use. Not to be overlooked is the role of the computer as a productivity tool. It is this last area that is currently well established and a proven value."

4. The ways in which computers will be used in education are many and varied and most are yet to be determined. Because the computer is an intellectual tool in the learning and creative processes the policy should be flexible and responsive and it should encourage the exploration of new ways in which computers can be employed and it should avoid becoming restrictive and deterministic.

British Columbia Institute of Technology:

"The focus of Computer Based Education in schools is too narrow - the broader aspects of Information Technology in a total educational context is necessary."

Cariboo:

"The use of computers as an instructional tool is limited primarily by the imagination and enthusiasm of the instructor. Administration should encourage this imagination and direct the enthusiasm. DO NOT stifle this potential by dictating what hardware and software will be used."

Malaspina:

"Policies with respect to educational usage should be flexible and enabling, not directive."

Selkirk:

"The provision of Computer Based Education should be considered as an important learning aid rather than an instructional alternative. These learning aids are necessary to ensure both program and pedagogical relevance; however, I do not believe they will provide an effective alternative to instructional delivery."

Vancouver Community College:

"The recommendation for flexibility on how computers are employed is a good one. It would be very dangerous if we were to standardize too much or inhibit people from trying new techniques. The micro revolution came from people who tried different things. However, we should strive to see that what is being done is known and shared by all."

The Committee recommends that:

1. The colleges accept the principle that the use of the computer as a tool is fundamental in community college education.

Camosun:

"Agreed."

Cariboo:

"While agreeing that computers are a tool to be used in education, they are definitely NOT fundamental. The only fundamental tool, if we may call it such, is the intellectual capacity of the faculty who must ultimately "interface" with the students. Don't forget that we are dealing with human beings and no one interacts better with students than another human being. If we delegate education to "impersonal" computers, the students will lose out on the most essential aspect of that education."

Malaspina:

"Agreed."

2. The colleges consider the use of computing as an essential tool in every academic endeavor.

Camosun:

"While we agree in principle, computing may not be considered an "essential" tool in every academic endeavor."

Cariboo:

"To consider the computer an essential tool in all academic endeavors is to lead us further down the pathway of reducing the students' ability to communicate. A reliance on computers would lead to an increase in the current appalling illiteracy of the student body. In the final analysis, the quality of education the student receives is determined by the quality of the human he/she receives it from. Nothing else is essential."

Douglas:

"Over-zealous. Computers are a potentially useful tool in most academic endeavors."

Malaspina:

"Disagree, may not be considered essential in every academic endeavor. Appropriate usage can best be determined by an informed faculty. It is this kind of overenthusiastic statement that gives the enterprise a bad name. It takes the authors from the realm of well-reasoned moderation into the dubious world of true believers. I think they should be encouraged not to overstep the boundaries of their expertise and knowledge; they are not expert in "every" academic endeavor, and there are many in which computers will not be essential, but indeed peripheral. Overstating the case only weakens it."

3. Colleges collaborate in setting common goals for computer applications.

Camosun:

""Nice idea, but probably a more realistic goal would be that colleges" publicize their achievements and plans."

Cariboo:

"Don't attempt to "standardize" our educational programs. Every college is unique and must remain that way."

Malaspina:

"Ideal, but not very likely. Colleges and Institutes don't collaborate on that much now. Substitute effective information sharing."

Vancouver Community College:

"The goal of "computing on demand" is a fine one, but as with books in the library, there are limits to access as you can only borrow for so long. With the current restrictions on budgets and space, some thought must be given to equitable ways of sharing scarce resources."

4. A special effort be made to adapt this technology to providing an enhanced level of service to people who are in need of distance education solutions.

Camosun:

"It is assumed "distance education" can be read in its widest sense and would certainly embrace handicapped students receiving education at a remote location."

Cariboo:

"Agreed."

Douglas:

"We would like to emphasize the need for human contact (as a motivating factor) in distance education. This recommendation will be challenged by the requirement for computer-literate students, the need for sophisticated equipment and the current lack of courseware."

Malaspina:

"Coupling computing and distance education is desirable, but should at this time recognize that any off-campus location could be treated as distant, even if it is only one mile away."

North Island:

"Computer-based learning must be developed to it full potential so that ACCESS to learning and training opportunities can be extended throughout the province. The key to doing this lies in the appropriate development of instructional and training software and systems."

5. Targets be set for the provision of hardware and software within the colleges to achieve the goal of computing on demand.

Camosun:

"Some problems with the goal of computing on demand. Other requirements within the system cannot be ignored in favor of computing. A planned increase in accessibility appropriate."

Cariboo:

"Who is going to pay and who will decide on hardware and software?"

East Kootenay:

"Where do we get the resources?"

Malaspina:

"Substitute "reasonable access" for "on demand"."

Northern Lights:

"A 3-year expenditure plan risks highlighting the need for technological updating to the detriment of funding the more traditional, though still important, program equipment."

6. The colleges establish a multi-faceted program designed to train faculty in the use of computer technology in their teaching.

Camosun:

"Agreed."

Cariboo:

"Need to "encourage", not "train". Where does money and time come from? Can't impose technology on people."

Douglas:

"These are crucial recommendations and should be broadened to include the provision for adequate equipment."

East Kootenay:

"Where do we get the resources?"

Malaspina:

"Agreed."

7. A special effort be mounted to create a co-operative and positive atmosphere towards technological change among the faculty and other college employees.

Camosun:

"Agreed."

Cariboo:

"Who will mount this special effort?"

Douglas:

See #6.

Malaspina:

"An atmosphere will evolve as people have positive and negative experiences with computers and related technology. Who are we to promote an attitude? We can be instrumental in reducing apprehensions as more people are exposed to the technology."

8. A central organization be assigned the responsibility for negotiating special software pricing and licensing agreements on behalf of the colleges.

British Columbia Institute of Technology:

"Caution is urged when considering yet another centralized agency. Coordination though is desirable especially on information sharing."

Camosun:

"Sharing information among colleges would be more appropriate."

Cariboo:

"Another "central organization"! Should its role be as broad as outlined in this report? A lot of care should be taken to ensure that it is democratic, representative and not dictated by the education ministry."

Computer Centre Managers Group:

"The Computer Centre Managers Group has major joint software licensing agreements in place with Digital Equipment, and has agreed informally that most software of interest to one college is probably of interest to others and that provincial licenses should always be sought."

Douglas:

"The spectre of another bureaucratic, expensive central agency...is an uneasy one. Consideration should be given to using the existing committees (B.C.C.E.C., C.C.M.G., and articulation groups) as a mode of information exchange. The Provincial Educational Media Centre has the expertise to negotiate contracts and could be enlisted for this function as needed."

East Kootenay:

"Without knowing the full terms of reference of the Computer Centre Managers Group or the British Columbia Computers in Education Committee, I feel further investigation of this concept is necessary prior to considering such a model."

9. The policy be to encourage the growth of a British Columbia-based software industry to serve the emerging needs of our schools and colleges.

British Columbia Institute of Technology:

"Courseware development needs to be encouraged. Cooperation and sharing are important in this area."

Camosun:

"Leave this to the private sector."

Cariboo:

"Could be profound... worthwhile to pursue."

Douglas:

"Whilst economic recovery for the Province is everyone's desire, this recommendation cannot allow quality or cost effectiveness to be compromised."

Malaspina:

"This is beyond the scope of the Educational Community's mandate. It will likely happen in the private sector as an adjunct to a major initiative in the public sector. Perhaps a BUY B.C. program will help."

10. The government and the colleges collaborate on the preparation of a policy on the ownership of copyright of educational materials produced within the college system.

Camosun:

"Agreed."

Cariboo:

"Agreed."

Computer Centre Managers Group:

"Most colleges already have copyright provisions in place as part of their Collective Agreements with faculty (recommendation 10)."

Douglas:

"We recommend that any software developed at any provincial institution be made available free of charge to other provincial institutions."

Malaspina:

"Agree, as written. Also suggest clear statements on software piracy."

11. A wide range of contemporary hardware from the commercial marketplace be accepted for use in the college system and that no attempt should be made to impose a rigid set of standards for the acquisition of hardware.

British Columbia Institute of Technology:

"Hardware diversity should be maintained."

Camosun:

"Agree that a central agency should co-ordinate and advise but not dictate standards to individual colleges."

Cariboo:

"Some standards are necessary to ensure the sharing of expertise and ideas throughout the system."

Malaspina:

"O.K. but, needs should determine the hardware, software, usage, etc."

12. Leadership and advice be provided to the colleges in the selection and implementation of suitable networking on each campus to provide for the growing need for communications in education.

Camosun:

"Difficult to see who could provide this leadership and again would not like a central agency to dictate standards."

Cariboo:

"Established by whom?"

Computer Centre Managers Group:

"Networking...between colleges is already in place. Networking on campuses normally happens under the direction of the computer centre, in cooperation with the telephone system manager and the audio-visual department. Many colleges already have nascent networks in place. The expertise to deal with the rapidly changing field of networks already exists in the colleges."

East Kootenay:

"Another area that should be further addressed, possibly as an extension of recommendation 12, is a network for providing colleges, program managers and Ministry officials with information about software available or being developed, and standards."

Malaspina:

"Agreed. For several years people have been attempting to get mainframe network performance by linking micro-computers together. There are not many success stories. As micro-based networks improve, mainframe computers are providing pricing and software that is more favorable to the micro market niche. Perhaps what we will see more of in the near future is micro-terminals on mainframe networks."

13. The government and the colleges recognize the dynamic nature of educational technology and that they jointly provide for the ongoing monitoring of new developments as they emerge.

Camosun:

"Agreed."

Cariboo:

"Valid as a sharing of knowledge."

Malaspina:

"Yes. #8, #13, #14, all can be accomplished by a provincial clearinghouse and acquisition office. Suggest universities and K-12 schools also need to be included."

14. The responsibility to monitor changes in the technology and to advise the colleges of these changes as they occur be assigned to a central agency.

Camosun:

"Once again, some caution is expressed regarding the idea of a "central agency"."

Cariboo:

"The most common general concern, at this college, is the concept of a central agency. It is imperative that this group be advisory only and that it be a democratic body within the realm of the colleges."

Computer Centre Managers Group:

"The Computer Centre Managers Group disagrees with recommendation 14. There is such a mass of information flooding into colleges and institutes now, and there are so many organizations which digest, summarize and interpret it, that creating another agency or mechanism is a waste of time and money."

Malaspina:

"Agreed. See #13."

List of Respondents

British Columbia Institute of Technology
Camosun College
Cariboo College
Computer Centre Managers Group
Douglas College
East Kootenay College
Malaspina College
Northern Lights College
North Island College
Okanagan College
Open Learning Institute
Selkirk College
Vancouver Community College

Appendix B: Clearance of Copyright on Software

MODELS FOR CONSIDERATION

CLEARANCE OF COPYRIGHT ON SOFTWARE

FOR EDUCATIONAL USE

Objective:

Identify the various models available to the post-secondary educational community which may be used to clear copyright limitations on computer software that has been identified as having curricular value across a multi-institutional base.

There are a variety of models which have been employed in British Columbia for a decade or more in the clearance of copyright for educational software. The validity of that statement depends upon the willingness of the reader to concede that the term "software" is generic rather than specific; it has been widely used in the audio-visual field, for example, to identify materials (films, sound recordings, video tapes) as opposed to the equipment (hardware) used to manipulate those materials. The models used to clear copyright pertaining to a film series or a title available on video tape, both of which are desired by a number of British Columbia institutions, may be considered for use in the case of similarly identified computer software.

A. The Media Exchange Cooperative is a consortium of post-secondary institutions operating at the behest of a board or committee which draws its institutional representation from those who have responsibility for the selection, acquisition and distribution of media software. Established in 1972, the Media Exchange Cooperative accommodates a number of functions among which is the identification of mutually-desired resource materials. Representatives bring to the Media Exchange Cooperative table an institutional list which has been prioritized; such lists are then rationalized to identify group priorities. Once accomplished, there are a variety of steps which may be taken to accommodate acquisition:

1. Given, for example, that Media Exchange Cooperative finds that seven or eight institutions desire a particular title, it may approach the Provincial Educational Media Centre with a request that Provincial Educational Media Centre acquire it from its available funds. Such acquisition, it is expected, will include negotiation for duplication rights and the use by any publicly-funded educational institution. The Provincial Educational Media Centre may, on occasion, respond with a plea for fiscal assistance; those Media Exchange Cooperative member institutions which have prioritized the title may then be asked to contribute funds towards the title's acquisition by Provincial Educational Media Centre.

2. On another occasion, the Media Exchange Cooperative may find that a minority of its members have prioritized a title but feel strongly about its acquisition and clearance. Those members, acting as a group, may agree on a respective fiscal assessment and approach the Provincial Educational Media Centre to undertake acquisition/clearance on their behalf. It is always understood that, when so approached, the Provincial Educational Media Centre will clear not just for the group but the province as a whole.

3. The Provincial Educational Media Centre may approach the Media Exchange Cooperative with a list of prospective titles it has identified as having merit for acquisition and request the Media Exchange Cooperative to analyze and prioritize from its perspective. There have been infrequent occasions when an individual Media Exchange Cooperative member, feeling strongly about a particular title, has contributed towards the cost of acquisition when, if acting independently, the costs would have been considerably in excess of the contribution.

B. There have been instances where an institution, seeking a solution to its own peculiar objectives, has independently acquired institutional rights to a particular telecourse, for example. The material has subsequently been seen to have broader applications and, either on its own initiative or at the provocation of other institutions, the Provincial Educational Media Centre has moved after the fact to acquire provincial rights.

C. The Telecourse Acquisition Committee provides yet another model. In this instance, the Ministry acted out of interest in a rational base for the acquisition of telecourse materials. It also has in hand a request from the KNOW for the allocation of acquisition funding to serve its own ends. Given an apparent conflict of interest, the Ministry commissioned a committee, heavily weighted from the instructional sector, but with representation from the KNOW, as well as from the Provincial Educational Media Centre. The committee was mandated under the aegis of the Council of Principals from whose ranks a chairman was drawn; in this instance J. McInnis, Principal of East Kootenay Community College, was called upon to chair and to accept institutional fiscal responsibility for funds allocated for the purpose by the Ministry. The committee calls for and reviews telecourse project proposals from throughout the college system. It evaluates the proposals in terms of their respective potential benefits to the system, then requests the Provincial Educational Media Centre undertake the necessary acquisition and clearance of broadcast rights, duplication rights, etc. The Provincial Educational Media Centre, upon completion of its assignments, invoices East Kootenay Community College accordingly.

D. It should by now be apparent to anyone that there is an essential player in the models described above. This province is uniquely favored in that it has incorporated into the educational system an agency which is responsible for clearance of a variety of rights appended to a variety of instructional materials - deemed appropriate by those responsible for instruction. The Provincial Educational Media Centre has a resident knowledge concerning copyright clearance and a history of successful negotiation and administration of those rights. In fact, while it has not been asked nor funded to do so by the post-secondary community, it has been clearing rights on microcomputer software for the K-12 sector for some time. It is recommended that, whatever model may be under consideration for clearance of rights to computer software for use by colleges, the resident expertise of the Provincial Educational Media Committee be considered at the very least for consultation as to the most appropriate process. (3)

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3. B. MacLean, Director, Instructional Media Services Vancouver Community College